

RAW SEQUENCE LISTING
PATENT APPLICATION US/08/882,431BDATE: 01/11/2000
TIME: 16:50:30

INPUT SET: S34420.raw

This Raw Listing contains the General
Information Section and up to the first 5 pages.

1 SEQUENCE LISTING
2
3 (1) General Information:
4 (i) APPLICANT: Robert G. Ulrich,
5 Mark A. Olson
6 Sina Bavari
7
8 (ii) TITLE OF INVENTION: Bacterial Superantigen
9 Vaccines
10
11 (iii) NUMBER OF SEQUENCES:25
12
13 (iv) CORRESPONDENCE ADDRESS:
14 (A) ADDRESSEE: Charles H. Harris
15 (B) STREET: US Army MPMC -504 Scott Street MCMR-JA (Charles H. Harris-Patent Atty)
16 (C) CITY: FORT DETRICK
17 (D) STATE: MARYLAND
18 (E) COUNTRY: USA
19 (F) ZIP: 21702-5012
20
21 (v) COMPUTER READABLE FORM:
22 (A) MEDIUM TYPE: Floppy disk
23 (B) COMPUTER: Apple Macintosh
24 (C) OPERATING SYSTEM: Macintosh 7.5
25 (D) SOFTWARE: Microsoft Word 6.0
26
27 (vi) CURRENT APPLICATION DATA:
28 (A) APPLICATION NUMBER: 08/882,431
29 (B) FILING DATE: June 25, 1997
30 (C) CLASSIFICATION:
31
32 (vii) PRIOR APPLICATION DATA:
33 (A) APPLICATION NUMBER:
34 (B) FILING DATE:
35
36 (viii) ATTORNEY/AGENT INFORMATION:
37 (A) NAME: Charles H. Harris
38 (B) REGISTRATION NUMBER: 34,616
39 (C) REFERENCE/DOCKET NUMBER:
40
41 (ix) TELECOMMUNICATION INFORMATION
42 (A) TELEPHONE: (301) 619-2065
43 (B) TELEFAX: (301) 619-7714
44
45
46 (2) INFORMATION FOR SEQ ID NO:1:

RAW SEQUENCE LISTING
PATENT APPLICATION US/08/882,431BDATE: 01/11/2000
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47 (i) SEQUENCE CHARACTERISTICS:
48 (A) LENGTH: 830
49 (B) TYPE: Nucleic Acid
50 (C) STRANDEDNESS: Unknown
51 (D) TOPOLOGY: Unknown
52
53 (ii) MOLECULE TYPE: DNA
54
55 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:1:
56
57 atgaaaaaaaa cagcatttac attactttta ttcattgccc 40
58
59 taacgttgac aacaagtcca cttgtaaatg gtagcgagaa 80
60
61 aagcgaagaa ataaatgaaa aagattttgcg aaaaaagtct 120
62
63 gaattgcagg gaacagcttt aggcaatctt aaacaaatct 160
64
65 attattacaa tgaaaaagct aaaactgaaa ataaagagag 200
66
67 tcacgatcaa ttctgacagc atactatatt gtttaaaggc 240
68
69 ttttttacag atcattcgtg gtataacgat ttattagtag 280
70
71 gttttgattc aaaggatatt gttgataaat ataaagggaa 320
72
73 aaaagtagac ttgtatggtg cttatgctgg ttatcaatgt 360
74
75 gcgggtggtg caccaaaca aacagcttgt atgtatggtg 400
76
77 gtgtaacggt acatgataat aatcgattga ccgaagagaa 440
78
79 aaaagtgccg atcaatttat ggctagacgg taaacaaaat 480
80
81 acagtacctt tggaaacggt taaaacgaat aagaaaaatg 520
82
83 taactgttca ggagttggat cttcaagcaa gacgttattt 560
84
85 acaggaaaaa tataatttat ataactctga tgtttttgat 600
86
87 gggaagggtc agaggggatt aatcgtgttt catacttcta 640
88
89 cagaaccttc ggttaattac gatttatttg gtgctcaagg 680
90
91 acagtattca aatacactat taagaatata tagagataat 720
92
93 aaaacgatta actctgaaaa catgcatatt gatatatatt 760
94
95 tatatacaag ttaaACATGG TAGTTTGTGAC CAACGTAATG 800
96
97 TTCAGATTAT TATGAACCGA GAATAATCTA 830
98
99

RAW SEQUENCE LISTING PATENT APPLICATION US/08/882,431B

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100 (2) INFORMATION FOR SEQ ID NO:2:
101 (i) SEQUENCE CHARACTERISTICS:
102 (A) LENGTH: 257
103 (B) TYPE: Amino Acid
104 (C) STRANDEDNESS: Unknown
105 (D) TOPOLOGY: Unknown
106 (ii) MOLECULE TYPE: Peptide
107 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:2:
108
109 Met Lys Lys Thr Ala Phe Thr Leu Leu Leu
110 1 5 10
111
112 Phe Ile Ala Leu Thr Leu Thr Thr Ser Pro
113 15 20
114
115 Leu Val Asn Gly Ser Glu Lys Ser Glu Glu
116 25 30
117
118 Ile Asn Glu Lys Asp Leu Arg Lys Lys Ser
119 35 40
120
121 Glu Leu Gln Gly Thr Ala Leu Gly Asn Leu
122 45 50
123
124 Lys Gln Ile Tyr Tyr Tyr Asn Glu Lys Ala
125 55 60
126
127 Lys Thr Glu Asn Lys Glu Ser His Asp Gln
128 65 70
129
130 Phe Arg Gln His Thr Ile Leu Phe Lys Gly
131 75 80
132
133 Phe Phe Thr Asp His Ser Trp Tyr Asn Asp
134 85 90
135
136 Leu Leu Val Arg Phe Asp Ser Lys Asp Ile
137 95 100
138
139 Val Asp Lys Tyr Lys Gly Lys Lys Val Asp
140 105 110
141
142 Leu Tyr Gly Ala Tyr Ala Gly Tyr Gln Cys
143 115 120
144
145 Ala Gly Gly Thr Pro Asn Lys Thr Ala Cys
146 125 130
147
148 Met Tyr Gly Gly Val Thr Leu His Asp Asn
149 135 140
150
151 Asn Arg Leu Thr Glu Glu Lys Lys Val Pro
152 145 150

```

RAW SEQUENCE LISTING PATENT APPLICATION US/08/882,431B

DATE: 01/11/2000
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INPUT SET: S34420.raw

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153
154   Ile Asn Leu Trp Leu Asp Gly Lys Gln Asn
155                               155           160
156
157   Thr Val Pro Leu Glu Thr Val Lys Thr Asn
158                               165           170
159
160   Lys Lys Asn Val Thr Val Gln Glu Leu Asp
161                               175           180
162
163   Leu Gln Ala Arg Arg Tyr Leu Gln Glu Lys
164                               185           190
165
166   Tyr Asn Leu Tyr Asn Ser Asp Val Phe Asp
167                               195           200
168
169   Gly Lys Val Gln Arg Gly Leu Ile Val Phe
170                               205           210
171
172   His Thr Ser Thr Glu Pro Ser Val Asn Tyr
173                               215           220
174
175   Asp Leu Phe Gly Ala Gln Gly Gln Tyr Ser
176                               225           230
177
178   Asn Thr Leu leu Arg Ile Tyr Arg Asp Asn
179                               235           240
180
181   Lys Thr Ile Asn Ser Glu Asn Met His Ile
182                               245           250
183
184   Asp Ile Tyr Leu Tyr Thr Ser
185                               255
186
187
188   (2) INFORMATION FOR SEQ ID NO:3:
189   (i) SEQUENCE CHARACTERISTICS:
190   (A) LENGTH: 757
191   (B) TYPE: Nucleic Acid
192   (C) STRANDEDNESS: Unknown
193   (D) TOPOLOGY: Unknown
194   (ii) MOLECULE TYPE: DNA
195
196   (xi) SEQUENCE DESCRIPTION: SEQ ID NO:3:
197
198   atgagaaaag cgaagaaata aatgaaaaag atttgcgaaa   40
199
200   aaagtctgaa ttgcaggga cagcttttagg caatcttaaa   80
201
202   Caaatctatt attacaatga aaaagctaaa actgaaaata   120
203
204   aagagagtca cgatcaattt cgacagcata ctatattgtt   160
205

```

RAW SEQUENCE LISTING PATENT APPLICATION US/08/882,431B

DATE: 01/11/2000
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```

206 taaaggcttt tttagacatc attcgtggta taacgattta 200
207
208 ttagtacggt ttgattcaaa ggatattggt gataaatata 240
209
210 aagggaaaaa agtagacttg tatggtgctt atgctgggta 280
211
212 tcaatgtgcg ggtggtacac caaacaaaac agcttgtatg 320
213
214 tatggtgggt taacggtaca tgataataat cgattgaccg 360
215
216 aagagaaaaa agtgccgatc aatttatggc tagacggtaa 400
217
218 acaaaataca gtaccttggg aaacgggtta aacgaataag 440
219
220 aaaaatgtaa ctgttcagga gttggatctt caagcaagac 480
221
222 gttatttaca ggaaaaatat aatttatata actctgatgt 520
223
224 ttttgatggg aaggttcaga ggggattaat cgtgtttcat 560
225
226 acttctacag aaccttcggt taattacgat ttatttggtg 600
227
228 ctcaaggaca gtattcaaat acactattaa gaatatatag 640
229
230 agataataaa acgattaact ctgaaaacat gcataattgat 680
231
232 atatatttat atacaagtta aACATGGTAG TTTTGACCAA 720
233
234 CGTAATGTTC AGATTATTAT GAACCGAGAA TAATCTA 757
235
236

```

```

237 (2) INFORMATION FOR SEQ ID NO:4:
238 (i) SEQUENCE CHARACTERISTICS:
239 (A) LENGTH:233
240 (B) TYPE: Amino Acid
241 (C) STRANDEDNESS: Unknown
242 (D) TOPOLOGY: Unknown
243 (ii) MOLECULE TYPE: Peptide
244 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:4:
245
246 Met Glu Lys Ser Glu Glu Ile Asn Glu Lys
247           5                               10
248
249 Asp Leu Arg Lys Lys Ser Glu Leu Gln Gly
250           15                               20
251
252 Thr Ala Leu Gly Asn Leu Lys Gln Ile Tyr
253           25                               30
254
255 Tyr Tyr Asn Glu Lys Ala Lys Thr Glu Asn
256           35                               40
257
258 Lys Glu Ser His Asp Gln Phe Arg Gln His

```

RAW SEQUENCE LISTING
PATENT APPLICATION US/08/882,431BDATE: 01/11/2000
TIME: 16:50:32

INPUT SET: S34420.raw

***** PREVIOUSLY ERRORED SEQUENCES - EDITED *****

1540 (2) INFORMATION FOR SEQ ID NO:24:
1541 (i) SEQUENCE CHARACTERISTICS:
1542 (A) LENGTH: 79
1543 (B) TYPE: Amino Acid
1544 (C) STRANDEDNESS: Unknown
1545 (D) TOPOLOGY: Unknown
1546 (ii) MOLECULE TYPE: Peptide
1547 (xi) SEQUENCE DESCRIPTION:SEQ ID NO:24:
1548 Ser Val Asp Gln Leu Leu Ser His Asp Leu
1549 5 10
1550 Ile Tyr Asn Val Ser Gly Pro Asn Tyr Asp
1551 15 20
1552 Lys Leu Lys Thr Glu Leu Lys Asn Gln Glu
1553 25 30
1554 Met Ala Thr Leu Phe Lys Asp Lys Asn Val
1555 35 40
1556 Asp Ile Tyr Gly Val Glu Tyr Tyr His Leu
1557 45 50
1558 Cys Tyr Leu Cys Glu Asn Ala Glu Arg Ser
1559 55 60
1560 Ala Cys Ile Tyr Gly Gly Val Thr Asn His
1561 65 70
1562 Glu Gly Asn His Leu Glu Ile Pro Lys
1563 75
1564

1565 (2) INFORMATION FOR SEQ ID NO:25:
1566 (i) SEQUENCE CHARACTERISTICS:
1567 (A) LENGTH: 73
1568 (B) TYPE: Amino Acid
1569 (C) STRANDEDNESS: Unknown
1570 (D) TOPOLOGY: Unknown
1571 (ii) MOLECULE TYPE: Peptide
1572 (xi) SEQUENCE DESCRIPTION:SEQ ID NO:25:
1573 Val Leu Asp Asn Ser Leu Gly Ser Met Arg
1574 5 10
1575 Ile Lys Asn Thr Asp Gly Ser Ile Ser Leu
1576 15 20
1577 Ile Ile Phe Pro Ser Pro Tyr Tyr Ser Pro
1578 25 30
1579 Ala Phe Thr Lys Gly Glu Lys Val Asp Leu
1580 35 40
1581 Asn Thr Lys Arg Thr Lys Lys Ser Gln His
1582 45 50
1583 Thr Ser Glu Gly Thr Tyr Ile His Phe Gln
1584 55 60
1585 Ile Ser Gly Val Thr Asn Thr Glu Lys Leu

PAGE: 7

RAW SEQUENCE LISTING
PATENT APPLICATION US/08/882,431B

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1586
1587 Pro Thr Pro
1588

65

70

PAGE: 1

SEQUENCE VERIFICATION REPORT
PATENT APPLICATION US/08/882,431B

DATE: 01/11/2000
TIME: 16:50:32

INPUT SET: S34420.raw

Line

Error

Original Text

PAGE: 1

RAW SEQUENCE LISTING
PATENT APPLICATION US/08/882,431BDATE: 01/11/2000
TIME: 01:18:02

INPUT SET: S34420.raw

This Raw Listing contains the General
Information Section and those Sequences
containing ERRORS.

SEQUENCE LISTING

1
2
3 (1) General Information:
4 (i) APPLICANT: Robert G. Ulrich,
5 Mark A. Olson
6 Sina Bavari
7
8 (ii) TITLE OF INVENTION: Bacterial Superantigen
9 Vaccines
10
11 (iii) NUMBER OF SEQUENCES:25
12
13 (iv) CORRESPONDENCE ADDRESS:
14 (A) ADDRESSEE: Charles H. Harris
15 (B) STREET: US Army MPMC -504 Scott Street MCMR-JA (Charles H. Harris-Patent Atty)
16 (C) CITY: FORT DETRICK
17 (D) STATE: MARYLAND
18 (E) COUNTRY: USA
19 (F) ZIP: 21702-5012
20
21 (v) COMPUTER READABLE FORM:
22 (A) MEDIUM TYPE: Floppy disk
23 (B) COMPUTER: Apple Macintosh
24 (C) OPERATING SYSTEM: Macintosh 7.5
25 (D) SOFTWARE: Microsoft Word 6.0
26
27 (vi) CURRENT APPLICATION DATA:
28 (A) APPLICATION NUMBER: 08/882,431
29 (B) FILING DATE: June 25, 1997
30 (C) CLASSIFICATION:
31
32 (vii) PRIOR APPLICATION DATA:
33 (A) APPLICATION NUMBER:
34 (B) FILING DATE:
35
36 (viii) ATTORNEY/AGENT INFORMATION:
37 (A) NAME: Charles H. Harris
38 (B) REGISTRATION NUMBER: 34,616
39 (C) REFERENCE/DOCKET NUMBER:
40
41 (ix) TELECOMMUNICATION INFORMATION
42 (A) TELEPHONE: (301) 619-2065
43 (B) TELEFAX: (301) 619-7714
44
45

Does Not Comply
Corrected Diskette Needed

INPUT SET: S34420.raw

ERRORED SEQUENCES FOLLOW:

1353 (18) INFORMATION FOR SEQUENCE ID NO:17:
 1354 (i) SEQUENCE CHARACTERISTICS:
 1355 (A) LENGTH: 82
 1356 (B) TYPE: Amino Acid
 1357 (C) STRANDEDNESS: Unknown
 1358 (D) TOPOLOGY: Unknown
 1359 (ii) Molecule type: Peptide
 1360 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 17
 1361 Ser His Asp Gln Phe Leu Gln His Thr Ile
 1362 5 10
 1363 Leu Phe Lys Gly Phe Phe Thr Asp His Ser
 1364 15 20
 --> 1365 Trp Tyr Asn Asp Leu Leu Val Asp Phe Asp
 --> 1366 25 30
 --> 1367 Ser Lys Asp Ile Val Asp Lys Tyr Lys Gly
 --> 1368 35 40
 --> 1369 Lys Lys Val Asp Leu Tyr Gly Ala Tyr Tyr
 --> 1370 45 50
 --> 1371 Gly Tyr Gln Cys Ala Gly Gly Thr Pro Asn
 --> 1372 55 60
 --> 1373 Lys Thr Ala Cys Met Tyr Gly Gly Val Thr
 --> 1374 65 70
 --> 1375 Leu His Asp Asn Asn Arg Leu Thr Glu Glu
 --> 1376 75 80
 --> 1377 Lys Lys
 1378

1379 (19) INFORMATION FOR SEQUENCE ID NO:18:
 1380 (i) SEQUENCE CHARACTERISTICS:
 1381 (A) LENGTH: 82
 1382 (B) TYPE: Amino Acid
 1383 (C) STRANDEDNESS: Unknown
 1384 (D) TOPOLOGY: Unknown
 1385 (ii) Molecule type: Peptide
 1386 Thr Gly Asp Gln Phe Leu Glu Asn Thr Leu
 1387 5 10
 1388 Leu Tyr Lys Lys Phe Phe Thr Asp Leu Ile
 1389 15 20
 --> 1390 Asn Phe Glu Asp Leu Leu Ile Asn Phe Asn
 --> 1391 25 30
 --> 1392 Ser Lys Glu Met Ala Gln His Phe Lys Ser
 --> 1393 35 40
 --> 1394 Lys Asn Val Asp Val Tyr Pro Ile Arg Tyr
 --> 1395 45 50
 --> 1396 Ser Ile Asn Cys Tyr Gly Gly Glu Ile Asp
 --> 1397 55 60
 --> 1398 Arg Thr Ala Cys Thr Tyr Gly Gly Val Thr

Same error

RAW SEQUENCE LISTING
PATENT APPLICATION US/08/882,431BDATE: 01/11/2000
TIME: 01:18:02

INPUT SET: S34420.raw

```
--> 1399          65          70
--> 1400  Pro His Glu Gly Asn Lys Leu Lys Glu Arg
--> 1401          75          80
--> 1402  Lys Lys
1403
1404
```

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1405  (20) INFORMATION FOR SEQUENCE ID NO:19:
1406  (i) SEQUENCE CHARACTERISTICS:
1407  (A) LENGTH: 82
1408  (B) TYPE: Amino Acid
1409  (C) STRANDEDNESS: Unknown
1410  (D) TOPOLOGY: Unknown
1411  (ii) Molecule type: Peptide
1412  Ser Asp Asp Gln Phe Leu Glu Asn Thr Leu
1413          5          10
1414  Leu Phe Lys Gly Phe Phe Thr Gly His Pro
1415          15          20
--> 1416  Trp Tyr Asn Asp Leu Leu Val Asp Leu Gly
--> 1417          25          30
--> 1418  Ser Lys Asp Ala Thr Asn Lys Tyr Lys Gly
--> 1419          35          40
--> 1420  Lys Lys Val Asp Leu Tyr Gly Ala Tyr Tyr
--> 1421          45          50
--> 1422  Gly Tyr Gln Cys Ala Gly Gly Thr Pro Asn
--> 1423          55          60
--> 1424  Lys Thr Ala Cys Met Tyr Gly Gly Val Thr
--> 1425          65          70
--> 1426  Leu His Asp Asn Asn Arg Leu Thr Glu Glu
--> 1427          75          80
--> 1428  Lys Lys
1429
```

```
1430  (21) INFORMATION FOR SEQUENCE ID NO:20:
1431  (i) SEQUENCE CHARACTERISTICS:
1432  (A) LENGTH: 89
1433  (B) TYPE: Amino Acid
1434  (C) STRANDEDNESS: Unknown
1435  (D) TOPOLOGY: Unknown
1436  (ii) Molecule type: Peptide
1437  Ser Ile Asp Gln Phe Leu Tyr Phe Asp Leu
1438          5          10
1439  Ile Tyr Ser Ile Lys Asp Thr Lys Leu Gly
1440          15          20
--> 1441  Asn Tyr Asp Asn Val Arg Val Glu Phe Lys
--> 1442          25          30
--> 1443  Asn Lys Asp Leu Ala Asp Lys Tyr Lys Asp
--> 1444          35          40
--> 1445  Lys Tyr Val Asp Val Phe Gly Ala Asn Tyr
--> 1446          45          50
--> 1447  Tyr Gln Cys Tyr Phe Ser Lys Lys Thr Asn
--> 1448          55          60
--> 1449  Asp Ile Asn Ser His Gln Thr Asp Lys Arg
```

RAW SEQUENCE LISTING
PATENT APPLICATION US/08/882,431BDATE: 01/11/2000
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```
--> 1450          65          70
--> 1451  Lys Thr Cys Met Tyr Gly Gly Val Thr Glu
--> 1452          75          80
--> 1453  His Asn Gly Asn Gln Leu Asp Lys Tyr
--> 1454          85
--> 1455
```

```
1456 (22) INFORMATION FOR SEQUENCE ID NO:21:
1457 (i) SEQUENCE CHARACTERISTICS:
1458 (A) LENGTH: 89
1459 (B) TYPE: Amino Acid
1460 (C) STRANDEDNESS: Unknown
1461 (D) TOPOLOGY: Unknown
1462 (ii) Molecule type: Peptide
1463
1464 Ser Val Asp Lys Phe Leu Ala His Asp Leu
1465          5          10
1466 Ile Tyr Asn Ile Ser Asp Lys Lys Leu Lys
1467          15          20
--> 1468 Asn Tyr Asp Lys Val Lys Thr Glu Leu Leu
--> 1469          25          30
--> 1470 Asn Glu Gly Leu Ala Lys Lys Tyr Lys Asp
--> 1471          35          40
--> 1472 Glu Val Val Asp Val Tyr Gly Ser Asn Tyr
--> 1473          45          50
--> 1474 Tyr Val Asn Cys Tyr Phe Ser Ser Lys Asp
--> 1475          55          60
--> 1476 Asn Val Gly Lys Val Thr Gly Gly Lys Thr
--> 1477          65          70
--> 1478 Cys Met Tyr Gly Gly Ile Thr Lys His Glu
--> 1479          75          80
--> 1480 Gly Asn His Phe Asp Asn Gly Asn Leu
--> 1481          85
--> 1482
```

```
1483 (23) INFORMATION FOR SEQUENCE ID NO:22:
1484 (i) SEQUENCE CHARACTERISTICS:
1485 (A) LENGTH: 89
1486 (B) TYPE: Amino Acid
1487 (C) STRANDEDNESS: Unknown
1488 (D) TOPOLOGY: Unknown
1489 (ii) Molecule type: Peptide
1490 Ser Val Asp Lys Phe Leu Ala His Asp Leu
1491          5          10
1492 Ile Tyr Asn Ile Ser Asp Lys Lys Leu Lys
1493          15          20
--> 1494 Asn Tyr Asp Lys Val Lys Thr Glu Leu Leu
--> 1495          25          30
--> 1496 Asn Glu Asp Leu Ala Lys Lys Tyr Lys Asp
--> 1497          35          40
--> 1498 Glu Val Val Asp Val Tyr Gly Ser Asn Tyr
--> 1499          45          50
--> 1500 Tyr Val Asn Cys Tyr Phe Ser Ser Lys Asp
```

same
↓

RAW SEQUENCE LISTING
PATENT APPLICATION US/08/882,431BDATE: 01/11/2000
TIME: 01:18:03

INPUT SET: S34420.raw

--> 1501 55 60
--> 1502 Asn Val Gly Lys Val Thr Gly Gly Lys Thr
--> 1503 65 70
--> 1504 Cys Met Tyr Gly Gly Ile Thr Lys His Glu
--> 1505 75 80
--> 1506 Gly Asn His Phe Asp Asn Gly Asn Leu
--> 1507 85
1508

Adme

1509 (24) INFORMATION FOR SEQUENCE ID NO:23:
1510 (i) SEQUENCE CHARACTERISTICS:
1511 (A) LENGTH:89
1512 (B) TYPE: Amino Acid
1513 (C) STRANDEDNESS: Unknown
1514 (D) TOPOLOGY: Unknown
1515 (ii) Molecule type: Peptide
1516 Ser Val Asp Lys Phe Leu Ala His Asp Leu
1517 5 10
1518 Ile Tyr Asn Ile Ser Asp Lys Lys Leu Lys
1519 15 20
--> 1520 Asn Tyr Asp Lys Val Lys Thr Glu Leu Leu
--> 1521 25 30
--> 1522 Asn Glu Asp Leu Ala Lys Lys Tyr Lys Asp
--> 1523 35 40
--> 1524 Glu Val Val Asp Val Tyr Gly Ser Asn Tyr
--> 1525 45 50
--> 1526 Tyr Val Asn Cys Tyr Phe Ser Ser Lys Asp
--> 1527 55 60
--> 1528 Asn Val Gly Lys Val Thr Gly Gly Lys Thr

Adme

```

--> 1529          65          70
--> 1530  Cys Met Tyr Gly Gly Ile Thr Lys His Glu
--> 1531          75          80
--> 1532  Gly Asn His Phe Asp Asn Gly Asn Leu
--> 1533          85
1534

```

```

1535  (25) INFORMATION FOR SEQUENCE ID NO:24:
1536  (i) SEQUENCE CHARACTERISTICS:
1537  (A) LENGTH: 79
1538  (B) TYPE: Amino Acid
1539  (C) STRANDEDNESS: Unknown
1540  (D) TOPOLOGY: Unknown
1541  (ii) Molecule type: Peptide
1542  Ser Val Asp Gln Leu Leu Ser His Asp Leu
1543          5          10
1544  Ile Tyr Asn Val Ser Gly Pro Asn Tyr Asp
1545          15          20
--> 1546  Lys Leu Lys Thr Glu Leu Lys Asn Gln Glu
--> 1547          25          30
--> 1548  Met Ala Thr Leu Phe Lys Asp Lys Asn Val
--> 1549          35          40
--> 1550  Asp Ile Tyr Gly Val Glu Tyr Tyr His Leu
--> 1551          45          50

```

done

RAW SEQUENCE LISTING
PATENT APPLICATION US/08/882,431BDATE: 01/11/2000
TIME: 01:18:04

INPUT SET: S34420.raw

```
--> 1552  Cys Tyr Leu Cys Glu Asn Ala Glu Arg Ser
--> 1553                      55                      60
--> 1554  Ala Cys Ile Tyr Gly Gly Val Thr Asn His
--> 1555                      65                      70
--> 1556  Glu Gly Asn His Leu Glu Ile Pro Lys
--> 1557                      75
1558
```

```
1559  (26) INFORMATION FOR SEQUENCE ID NO:25:
1560  (i) SEQUENCE CHARACTERISTICS:
1561  (A) LENGTH: 73
1562  (B) TYPE: Amino Acid
1563  (C) STRANDEDNESS: Unknown
1564  (D) TOPOLOGY: Unknown
1565  (ii) Molecule type: Peptide
1566  Val Leu Asp Asn Ser Leu Gly Ser Met Arg
1567                      5                      10
1568  Ile Lys Asn Thr Asp Gly Ser Ile Ser Leu
1569                      15                      20
--> 1570  Ile Ile Phe Pro Ser Pro Tyr Tyr Ser Pro
--> 1571                      25                      30
--> 1572  Ala Phe Thr Lys Gly Glu Lys Val Asp Leu
--> 1573                      35                      40
--> 1574  Asn Thr Lys Arg Thr Lys Lys Ser Gln His
--> 1575                      45                      50
--> 1576  Thr Ser Glu Gly Thr Tyr Ile His Phe Gln
--> 1577                      55                      60
--> 1578  Ile Ser Gly Val Thr Asn Thr Glu Lys Leu
--> 1579                      65                      70
--> 1580  Pro Thr Pro
1581
```

none

SEQUENCE VERIFICATION REPORT

PATENT APPLICATION US/08/882,431B

DATE: 01/11/2000
TIME: 01:18:04

INPUT SET: S34420.raw

Line	Error	Original Text
1365	Response Exceeds Line Limitations	Trp Tyr Asn Asp Leu Leu Val Asp Phe Asp
1366	Response Exceeds Line Limitations	25 30
1367	Response Exceeds Line Limitations	Ser Lys Asp Ile Val Asp Lys Tyr Lys Gly
1368	Response Exceeds Line Limitations	35 40
1369	Response Exceeds Line Limitations	Lys Lys Val Asp Leu Tyr Gly Ala Tyr Tyr
1370	Response Exceeds Line Limitations	45 50
1371	Response Exceeds Line Limitations	Gly Tyr Gln Cys Ala Gly Gly Thr Pro Asn
1372	Response Exceeds Line Limitations	55 60
1373	Response Exceeds Line Limitations	Lys Thr Ala Cys Met Tyr Gly Gly Val Thr
1374	Response Exceeds Line Limitations	65 70
1375	Response Exceeds Line Limitations	Leu His Asp Asn Asn Arg Leu Thr Glu Glu
1376	Response Exceeds Line Limitations	75 80
1377	Response Exceeds Line Limitations	Lys Lys
1390	Response Exceeds Line Limitations	Asn Phe Glu Asp Leu Leu Ile Asn Phe Asn
1391	Response Exceeds Line Limitations	25 30
1392	Response Exceeds Line Limitations	Ser Lys Glu Met Ala Gln His Phe Lys Ser
1393	Response Exceeds Line Limitations	35 40
1394	Response Exceeds Line Limitations	Lys Asn Val Asp Val Tyr Pro Ile Arg Tyr
1395	Response Exceeds Line Limitations	45 50
1396	Response Exceeds Line Limitations	Ser Ile Asn Cys Tyr Gly Gly Glu Ile Asp
1397	Response Exceeds Line Limitations	55 60
1398	Response Exceeds Line Limitations	Arg Thr Ala Cys Thr Tyr Gly Gly Val Thr
1399	Response Exceeds Line Limitations	65 70
1400	Response Exceeds Line Limitations	Pro His Glu Gly Asn Lys Leu Lys Glu Arg
1401	Response Exceeds Line Limitations	75 80
1402	Response Exceeds Line Limitations	Lys Lys
1416	Response Exceeds Line Limitations	Trp Tyr Asn Asp Leu Leu Val Asp Leu Gly
1417	Response Exceeds Line Limitations	25 30
1418	Response Exceeds Line Limitations	Ser Lys Asp Ala Thr Asn Lys Tyr Lys Gly
1419	Response Exceeds Line Limitations	35 40
1420	Response Exceeds Line Limitations	Lys Lys Val Asp Leu Tyr Gly Ala Tyr Tyr
1421	Response Exceeds Line Limitations	45 50
1422	Response Exceeds Line Limitations	Gly Tyr Gln Cys Ala Gly Gly Thr Pro Asn
1423	Response Exceeds Line Limitations	55 60
1424	Response Exceeds Line Limitations	Lys Thr Ala Cys Met Tyr Gly Gly Val Thr
1425	Response Exceeds Line Limitations	65 70
1426	Response Exceeds Line Limitations	Leu His Asp Asn Asn Arg Leu Thr Glu Glu
1427	Response Exceeds Line Limitations	75 80
1428	Response Exceeds Line Limitations	Lys Lys
1441	Response Exceeds Line Limitations	Asn Tyr Asp Asn Val Arg Val Glu Phe Lys
1442	Response Exceeds Line Limitations	25 30
1443	Response Exceeds Line Limitations	Asn Lys Asp Leu Ala Asp Lys Tyr Lys Asp
1444	Response Exceeds Line Limitations	35 40
1445	Response Exceeds Line Limitations	Lys Tyr Val Asp Val Phe Gly Ala Asn Tyr
1446	Response Exceeds Line Limitations	45 50
1447	Response Exceeds Line Limitations	Tyr Gln Cys Tyr Phe Ser Lys Lys Thr Asn
1448	Response Exceeds Line Limitations	55 60
1449	Response Exceeds Line Limitations	Asp Ile Asn Ser His Gln Thr Asp Lys Arg

SEQUENCE VERIFICATION REPORT

PATENT APPLICATION US/08/882,431B

DATE: 01/11/2000

TIME: 01:18:04

INPUT SET: S34420.raw

Line	Error	Original Text
1450	Response Exceeds Line Limitations	65 70
1451	Response Exceeds Line Limitations	Lys Thr Cys Met Tyr Gly Gly Val Thr Glu
1452	Response Exceeds Line Limitations	75 80
1453	Response Exceeds Line Limitations	His Asn Gly Asn Gln Leu Asp Lys Tyr
1454	Response Exceeds Line Limitations	85
1468	Response Exceeds Line Limitations	Asn Tyr Asp Lys Val Lys Thr Glu Leu Leu
1469	Response Exceeds Line Limitations	25 30
1470	Response Exceeds Line Limitations	Asn Glu Gly Leu Ala Lys Lys Tyr Lys Asp
1471	Response Exceeds Line Limitations	35 40
1472	Response Exceeds Line Limitations	Glu Val Val Asp Val Tyr Gly Ser Asn Tyr
1473	Response Exceeds Line Limitations	45 50
1474	Response Exceeds Line Limitations	Tyr Val Asn Cys Tyr Phe Ser Ser Lys Asp
1475	Response Exceeds Line Limitations	55 60
1476	Response Exceeds Line Limitations	Asn Val Gly Lys Val Thr Gly Gly Lys Thr
1477	Response Exceeds Line Limitations	65 70
1478	Response Exceeds Line Limitations	Cys Met Tyr Gly Gly Ile Thr Lys His Glu
1479	Response Exceeds Line Limitations	75 80
1480	Response Exceeds Line Limitations	Gly Asn His Phe Asp Asn Gly Asn Leu
1481	Response Exceeds Line Limitations	85
1494	Response Exceeds Line Limitations	Asn Tyr Asp Lys Val Lys Thr Glu Leu Leu
1495	Response Exceeds Line Limitations	25 30
1496	Response Exceeds Line Limitations	Asn Glu Asp Leu Ala Lys Lys Tyr Lys Asp
1497	Response Exceeds Line Limitations	35 40
1498	Response Exceeds Line Limitations	Glu Val Val Asp Val Tyr Gly Ser Asn Tyr
1499	Response Exceeds Line Limitations	45 50
1500	Response Exceeds Line Limitations	Tyr Val Asn Cys Tyr Phe Ser Ser Lys Asp
1501	Response Exceeds Line Limitations	55 60
1502	Response Exceeds Line Limitations	Asn Val Gly Lys Val Thr Gly Gly Lys Thr
1503	Response Exceeds Line Limitations	65 70
1504	Response Exceeds Line Limitations	Cys Met Tyr Gly Gly Ile Thr Lys His Glu
1505	Response Exceeds Line Limitations	75 80
1506	Response Exceeds Line Limitations	Gly Asn His Phe Asp Asn Gly Asn Leu
1507	Response Exceeds Line Limitations	85
1520	Response Exceeds Line Limitations	Asn Tyr Asp Lys Val Lys Thr Glu Leu Leu
1521	Response Exceeds Line Limitations	25 30
1522	Response Exceeds Line Limitations	Asn Glu Asp Leu Ala Lys Lys Tyr Lys Asp
1523	Response Exceeds Line Limitations	35 40
1524	Response Exceeds Line Limitations	Glu Val Val Asp Val Tyr Gly Ser Asn Tyr
1525	Response Exceeds Line Limitations	45 50
1526	Response Exceeds Line Limitations	Tyr Val Asn Cys Tyr Phe Ser Ser Lys Asp
1527	Response Exceeds Line Limitations	55 60
1528	Response Exceeds Line Limitations	Asn Val Gly Lys Val Thr Gly Gly Lys Thr
1529	Response Exceeds Line Limitations	65 70
1530	Response Exceeds Line Limitations	Cys Met Tyr Gly Gly Ile Thr Lys His Glu
1531	Response Exceeds Line Limitations	75 80
1532	Response Exceeds Line Limitations	Gly Asn His Phe Asp Asn Gly Asn Leu
1533	Response Exceeds Line Limitations	85
1546	Response Exceeds Line Limitations	Lys Leu Lys Thr Glu Leu Lys Asn Gln Glu

SEQUENCE VERIFICATION REPORT
PATENT APPLICATION US/08/882,431BDATE: 01/11/2000
TIME: 01:18:05

INPUT SET: S34420.raw

Line	Error	Original Text
1547	Response Exceeds Line Limitations	25 30
1548	Response Exceeds Line Limitations	Met Ala Thr Leu Phe Lys Asp Lys Asn Val
1549	Response Exceeds Line Limitations	35 40
1550	Response Exceeds Line Limitations	Asp Ile Tyr Gly Val Glu Tyr Tyr His Leu
1551	Response Exceeds Line Limitations	45 50
1552	Response Exceeds Line Limitations	Cys Tyr Leu Cys Glu Asn Ala Glu Arg Ser
1553	Response Exceeds Line Limitations	55 60
1554	Response Exceeds Line Limitations	Ala Cys Ile Tyr Gly Gly Val Thr Asn His
1555	Response Exceeds Line Limitations	65 70
1556	Response Exceeds Line Limitations	Glu Gly Asn His Leu Glu Ile Pro Lys
1557	Response Exceeds Line Limitations	75
1570	Response Exceeds Line Limitations	Ile Ile Phe Pro Ser Pro Tyr Tyr Ser Pro
1571	Response Exceeds Line Limitations	25 30
1572	Response Exceeds Line Limitations	Ala Phe Thr Lys Gly Glu Lys Val Asp Leu
1573	Response Exceeds Line Limitations	35 40
1574	Response Exceeds Line Limitations	Asn Thr Lys Arg Thr Lys Lys Ser Gln His
1575	Response Exceeds Line Limitations	45 50
1576	Response Exceeds Line Limitations	Thr Ser Glu Gly Thr Tyr Ile His Phe Gln
1577	Response Exceeds Line Limitations	55 60
1578	Response Exceeds Line Limitations	Ile Ser Gly Val Thr Asn Thr Glu Lys Leu
1579	Response Exceeds Line Limitations	65 70
1580	Response Exceeds Line Limitations	Pro Thr Pro